

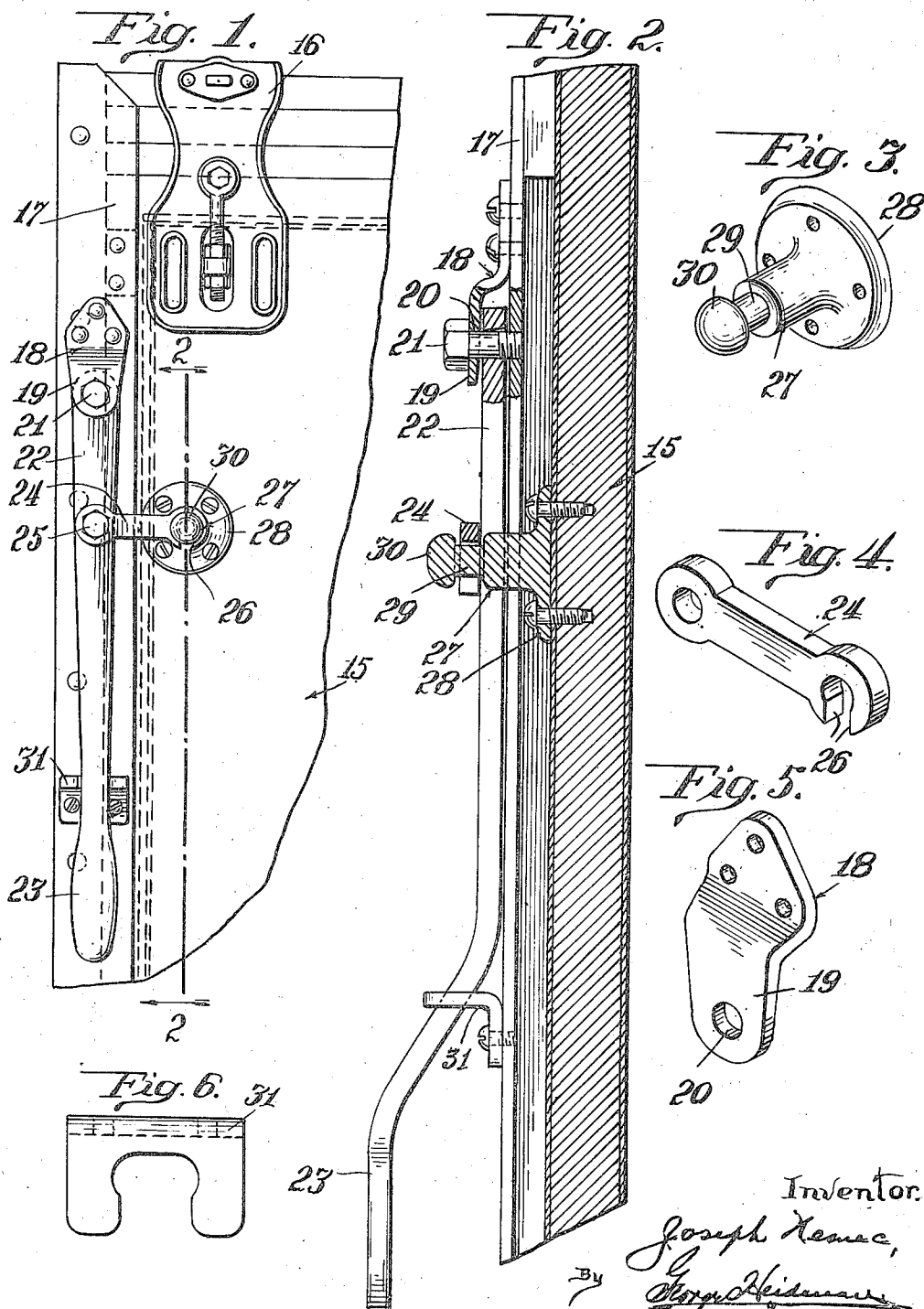
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J. NEMEC

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DOOR OPERATING MEANS

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Inventor.
Joseph Nemecek,
By *Ernst Heidmann*
Attorney

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DOOR OPERATING MEANS

Joseph Nemec, Western Springs, Ill., assignor
to The Midland Company, South Milwaukee,
Wis., a corporation of Wisconsin

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1 Claim. (Cl. 268—44)

My invention relates to door operating means, or throw out lever as it were, more especially intended for opening the doors of baggage, mail, and combination club cars; namely the relatively heavy doors which are slidably suspended in place and are adapted to fit snugly, when in closed position, between the door post and door rail and weather sealing elements.

In practice these doors are more or less violently slid into closed position and by reason of their weight and the rather snug fit between door post and plate, considerable power is required to open the doors, with the result that employees resort to the use of various appliances such as iron bars wherewith to either open or to completely close the doors.

The object of my invention is to provide means adapted to be secured adjacent the door-opening and cooperating with means secured on the door which not only enables the door to be tightly drawn into closed position but which can be readily operated and the door easily opened.

The invention also has for its object the provision of a device which will in no way interfere with the usual uses of the car or undesirably protrude into the car but rather will be suspendedly supported against a door-post, both when in and out of use.

The objects and advantages of the invention will be more readily comprehended from the following detailed description of the accompanying drawing, wherein:

Figure 1 illustrates my improved door operating means in elevation shown applied to a door post, with only a portion of a door and door post and plate and one of its suspending hangers being shown and the door in full closed position.

Figure 2 is an enlarged vertical sectional elevation taken on the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a detail perspective view of the power receiving element adapted to be secured to the door.

Figure 4 is a detail perspective view of the power transmitting member intermediate of the power lever and the power receiving element secured to the door.

Figure 5 is a perspective view of the power lever fulcrum member.

Figure 6 is a top plan view of lever holding member.

The slidably mounted doors of railroad baggage, mail and combination club cars, in order to be as weatherproof as possible, are usually made to have snug fitting relation between the door-

post and the plate and frequently are very difficult not only to open but to also force into complete closing position.

In order to enable both opening and closing of these doors to be more readily accomplished, I have devised the means hereinafter described shown applied to a sliding type of baggage car door of which a portion is shown at 15 which is suspended by a number of hanger brackets, one of which is shown at 16; the door being illustrated in closed position with its forward side or edge disposed rearward of the plate 17. For the purpose of exemplification, the door 15 has been shown as suspended from an overhead rail, but the particular method of mounting the door is immaterial, as my invention has to do with means whereby opening of the conventional type of baggage or mail car doors may be easily accomplished by the baggage men and mail men and whereby the door will also be held and locked in closed position.

Secured to the door-post plate 17 (which is usually secured to the door post) at a suitable height is a bracket 18 provided with an off-set depending portion 19 provided with a hole 20. The hole 20 is intended to receive pin or bolt 21 whose inner end is shown screwed into a tapped hole in the door-plate 17, see Figure 2, while the intermediate portion of the bolt constitutes the pivot portion for a lever 22; the lever being loosely hung from the bolt 21.

The lower end of lever 22 is preferably offset to provide a hand grasping portion 23 as shown in Figure 2; the lever being of comparative length in order to afford sufficient leverage.

The lever 22 at an intermediate point, preferably nearer to the pivotal point, has a door controlling link 24 pivotally secured thereto at 25, while the free end of the link 24 is transversely slotted to provide the substantially straight sided open jaws at 26; the slot being slightly enlarged at its upper end, see Figure 4.

The door 15 at a point adjacent to what may be termed the forward side of the door and preferably in substantially the same horizontal plane as the pivotal point 25 of link 24, when the lever 22 is in the normal perpendicular position shown in Figure 1, is provided with stud or pin 27.

The pin 27 is shown provided with an enlarged apertured base 28 which is firmly secured to the door by suitable bolts or screws; and the shank of the pin is shown slightly reduced intermediate of the ends to provide the link-jaw receiving portion 29; the head 30 of the stud or pin 27 preventing all possibility of the link 24 becoming

disengaged; the headed end and the shoulder on the pin portion preventing undue lateral play or movement of the latch member or link 24.

As shown, the pin 27 is secured the link's length away from the lever 22 when the latter is in perpendicular position and the door is in full completely closed position.

With the door in the closed position indicated in Figure 1, the lever 22 will depend in the perpendicular position shown while the free or jaw end of the link 24 is in engagement with the stud or pin 27. In order to hold the lever in this position, I prefer to provide the holding plate or socketed member 31. This lever holding member may consist of the angle plate shown, one side or leg being firmly secured to the post plate 17 while the other outwardly extending leg or side is socketed to receive the slightly reduced portion of the lever as shown in Figure 1; the socketed side or leg and the orifice of the socket being so formed that a more or less frictional relation with the lever 22 is provided.

When it is desired to open the door, the operator engages the lower end of lever 22, lifting it out of the socket in plate 31 and, in the specific embodiment shown in the drawing, pulls the free end of the lever to the right in Figure 1.

Such movement of the lever causes link 24 to exert considerable pressure on the stud or post 27 forcing the front end of the door 15 out of its wedged position between the door-post and the post-plate 17. With the connection between the lever 22 and the link 24 being in the nature of a pivot, movement of lever 22 through a vertically disposed arc and similar movement of point 25 is possible; and such movement is permitted to an extent sufficient to disengage the door from its wedged condition, namely rearward of plate 17. The operator may then move the jaw end 26 of link 24 off the stud or pin 27 and permit the door to be completely opened if desired. The length of lever and the relation between its pivotal or fulcrum point and the pivotal point of the link give the operator such leverage that opening of the door is easily accomplished without need for any other appliances.

With the socket 26 in the free end of link 24 terminating at its upper end in the somewhat arcuate enlarged portion while the walls of the socket at the orifice are substantially plane, the free end of the link cannot "ride up" on the stud or pin and hence the link 24 will also constitute means for locking the door in closed position because movement of the lever will be im-

possible through force exerted on the door itself while the free end of the lever is in the notch or socket in latch plate 31.

After the door has been shifted to approximately closed position where the link 24 can be placed over the stud of pin 27, a complete closing of the door can be effected by pulling hand lever 22 to the left in Figure 1.

Because of the hard working of the conventional baggage car slide door it is almost impossible for baggage and mail men to operate the doors especially where they have become somewhat warped and where ice and snow has lodged around the outer side, and they are compelled to use bars for wedging the doors open; the constant use of bars causing serious damage to the doors and mountings.

With my improved throw-out lever the damage heretofore caused is entirely eliminated and the door operation made quite simple; it being apparent that the lever 22 may be of any desired length to provide the necessary power.

The exemplification of the invention shown and described is believed to be a simple embodiment which has been described in terms employed for purposes of description and not as terms of limitation, as certain modifications are possible and may be made without, however, departing from the spirit of my invention.

What I claim is:

Door operating means of the character described comprising, in combination with a slidably hung car door, a hand lever pivotally mounted at its upper end to the door post of a car to depend and swing parallel with the car door, the lower end of the lever being offset outwardly; a stud member fixedly secured to the car door in a horizontal plane beneath that of the pivotal point of said lever and adapted to extend outwardly from the car door, the outer end of the stud being enlarged; a link pivotally secured at one end to the lever in proximity to the pivoted end thereof and substantially in the same plane as said stud when the lever is in normal position, the free end of the link being provided with a downwardly opening slot disposed transversely of the link and adapted to receive said stud, the sides of the lower end of the slot being parallel with each other to effect non-slipping engagement with said stud, the link being adapted to move through a vertically disposed arc; and a slotted angular plate adapted to be secured to the door post and to frictionally receive the lower end of said lever.

JOSEPH NEMEC.